Name _____ Date _____

Mid Year Assessment Review Sheet

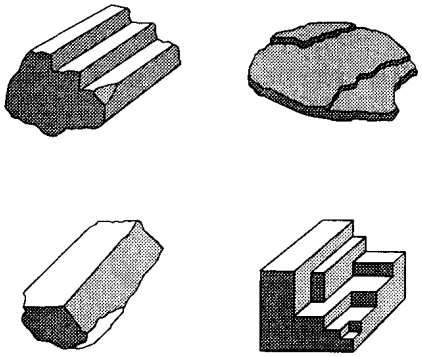
1. Metamorphic rocks are formed by

A) compaction and cementation
B) heating and pressure
C) melting and solidification
D) erosion and deposition

2. Which diagram correctly represents the nucleus of atom P?

A) 15p 16n B) 16p 15n
C) 31p 15n D) 15p 46n

3. The diagrams below represent fractured samples of four minerals.



Which mineral property is best illustrated by the samples?

A) streak B) hardness C) density D) cleavage

4. The element with atomic number 19 is

A) fluorine B) argon
C) sodium D) potassium

5. While on a field trip to a large lake, an observer recorded four statements about this lake. Which of these statements is most likely an inference?

A) The water is clear enough to see the bottom of the lake.
B) The surface temperature of the lake is 18.5ºC.
C) The lake was formed by a glacier.
D) A log is floating in the lake.

6. The best example of an inference is a

A) weather forecast for 3 days
B) description of cloud cover
C) reading of air pressure
D) measurement of air temperature

7. Which mineral property is illustrated by the peeling of muscovite mica into thin, flat sheets?

A) cleavage B) luster
C) streak D) hardness

8. The positively charged particle in the nucleus of an atom is

A) a proton B) an electron
C) a neutrino D) a neutron

9. Humus, which is formed by the decay of plant and animal matter, is important for the formation of most

A) soils B) minerals
C) surface bedrock D) sediment

10. Which statement best describes electrons?

A) They are negative subatomic particles and are found surrounding the nucleus.
B) They are positive subatomic particles and are found in the nucleus.
C) They are negative subatomic particles and are found in the nucleus.
D) They are positive subatomic particles and are found surrounding the nucleus.

11. Most metamorphic rocks are formed when

A) sediments are cemented and compacted
B) rocks are subjected to heat and pressure
C) magma cools slowly, deep underground
D) flows of lava cool rapidly

12. Consider the following reaction:

$2H_2(g) + O_2(g) \rightarrow 2H_2O(g)$

What kind of change is shown?

A) phase change B) chemical change
C) nuclear change D) physical change

13. A huge undersea earthquake off the Alaskan coastline could produce a

A) cyclone B) hurricane
C) tsunami D) thunderstorm

14. A student preformed an experiment designed to test the rate of evaporation of different solutions. He had different beakers containing water mixed with various substances, as well as one with just water. The beaker containing only water is known as the

A) hypothesis. B) dependent variable.
C) control. D) independent variable.

15. The nucleus of an atom of Iodine, I, contains

A) 53 protons and 74 neutrons
B) 53 protons and 127 neutrons
C) 53 neutrons and 127 protons
D) 53 protons and 74 electrons

16. What is the atomic symbol for gold?

A) Ag B) Au C) G D) Go

17. The total number of atoms in one molecule of the compound K_3PO_4 is

A) 7 B) 8 C) 3 D) 12

18. Which element is a metalloid?

A) Si B) Cr C) Ar D) Mg

19. The symbol for the element lead is

A) Pr B) Pd C) P D) Pb

20. The main difference between sedimentary and non-sedimentary rocks is the

A) means by which they are located
B) minerals of which they are composed
C) locations in which they are found
D) conditions under which they are formed

21. A student investigated properties of an unknown gas and then identified the gas. Which statement represents a conclusion rather than an experimental observation?

A) When the gas is bubbled into limewater, the liquid becomes cloudy.
B) When placed in the gas, a flaming splint stops burning.
C) The gas is carbon dioxide.
D) The gas is colorless.

22. Isotopes of the same element have the same number of

A) protons and electrons, only
B) electrons, protons, and neutrons
C) neutrons and protons, only
D) neutrons and electrons, only

23. All of the following involve chemical changes, *except*

A) the dissolving of a sugar cube in cup of coffee.
B) the rusting of a car in a junk yard.
C) the burning of gasoline in a car.
D) the digestion of food in your stomach.

24. Which evidence suggests that a landscape surface has been eroded by glaciers?

A) cross-bedded piles of frosted sand grains
B) large coral reefs
C) scratches in polished bedrock
D) layers of sorted round pebbles

25. When a sample of a gas is heated, the motion of its molecules

A) increases, and the volume of the gas decreases
B) decreases, and the volume of the gas decreases
C) decreases, and the volume of the gas increases
D) increases, and the volume of the gas increases

26. All of the following are examples of erosion **EXCEPT**:

A) A flood washes over a riverbank, and the water carries small soil particles downstream.
B) A glacier picks up boulders as it moves.
C) The wind in the desert blows sand against a rock.
D) An icy winter causes the pavement in a road to crack.

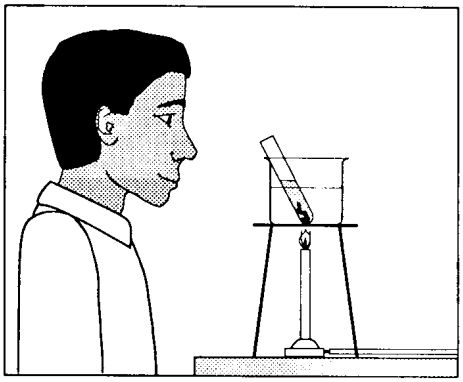
27. A rock that contains fossil seashells was most likely formed as a result of

A) heat and pressure. B) sedimentation.
C) volcanic activity. D) magma cooling.

28. An element that is malleable, ductile, and a good conductor of electricity is most likely

A) none of these B) a metalloid
C) a non-metal D) a metal

29. Base your answer on the diagram below and on your knowledge of biology.



Which statement describes *two* unsafe laboratory practices represented in the diagram?

A) The test tube is unstoppered and the student is not wearing goggles.
B) The beaker has water in it and the flame is under the tripod.
C) The flame is too high and the test tube is unstoppered.
D) The opening of the test tube is pointed toward the student and the student is not wearing goggles.

30. Which statement best describes a scientific theory?

A) It is a scientific fact that no longer requires any evidence to support it.
B) It is a general statement that is supported by many scientific observations.
C) It is an educated guess that can be tested by experimentation.
D) It is a collection of data designed to provide support for a prediction.

31. A sample of conglomerate consists mostly of fragments of granite and sandstone. The best inference that can be made from the sample is that this conglomerate

A) formed during Ice Age
B) formed from other rocks
C) resulted from solidification
D) contains fossils

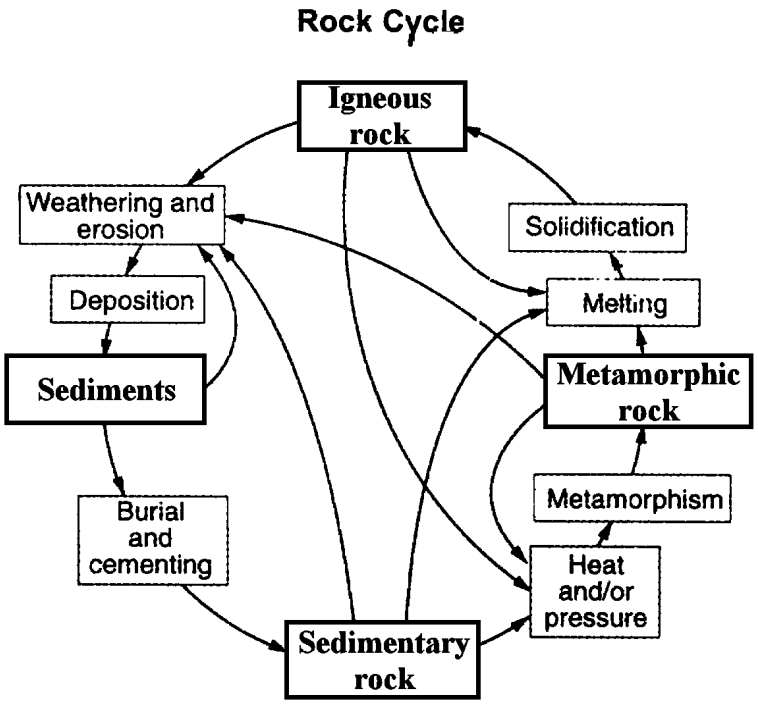
32. A gardener did an experiment to determine which of the three brands of fertilizer would produce the most growth in his plants. For three different plants of the same species, he used each of the three brands of fertilizer. Once a week, he made observations for each plant. Which would have improved the experiment?

A) Making observations every two weeks.
B) Using a different species of plant for each brand of fertilizer.
C) Testing each fertilizer with more than one type of plant.
D) Mixing the fertilizers.

33. A substance formed from the chemical union of two or more elements is known as a

A) colloid B) metalloid
C) compound D) solution

34. The diagram below shows the rock cycle.



Which two processes result in the formation of igneous rocks?

A) melting and solidification
B) compression and precipitation
C) crystallization and cementation
D) sedimentation and evaporation

35. Which is the best evidence of crustal movement?

A) tilted sedimentary rock layers
B) residual on top of bedrock
C) marine fossils found below sea level
D) liquid rock in the Earth's outer core

36. What is the total number of neutrons in an atom of Potassium, K whose Atomic Number is 19 and it's Atomic Mass is 39?

A) 58 B) 19 C) 20 D) 39

37. In an experiment, a factor that changes is called a

A) variable. B) control.
C) check factor. D) hypothesis.

38. "Matter is neither created nor destroyed." This statement is a

A) hypothesis which cannot be tested
B) scientific law that has been tested
C) scientist's opinion
D) fact that does not require scientific proof

39. Which substance has a definite shape and a definite volume?

A) solid B) liquid
C) gas D) plasma

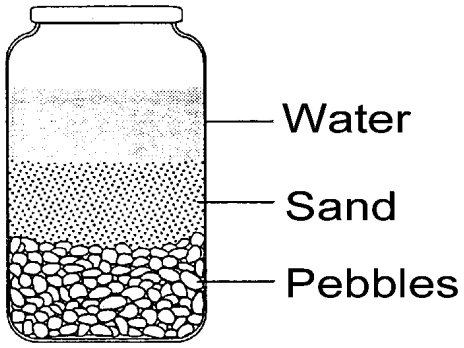
40. A neutral atom contains 12 neutrons and 11 electrons. The number of protons in this atom is

A) 1 B) 11 C) 12 D) 23

41. A substance is easiest to compress when it is a

A) liquid B) gas C) solid D) crystal

42. A sample of water and sediment was taken from the river. The sand and pebbles were allowed to settle in a jar for three hours, as shown below.



Which of these best explains why the pebbles are below the sand?

A) The sand particles trapped enough air to make them float.
B) The temperature of the water is high enough to melt some sand.
C) Pebbles are more dense than sand particles.
D) Sand particles dissolve more in water than pebbles.

43. By which processes are rocks broken up and moved to different locations?

A) evaporation and condensation
B) weathering and erosion
C) burial and cementation
D) compaction and transportation

44. Neon and sodium are examples of

A) metalloids B) mixtures
C) compounds D) elements

45. All of these activities are examples of safe laboratory practices *except*

A) cleaning glassware before storing them in labeled cabinets.
B) leaving boiling water unattended.
C) wearing goggles and aprons.
D) rinsing glassware with distilled water after washing.

46. During a laboratory activity, a student combined two solutions. In the laboratory report, the student wrote "A yellow color appeared." The statement represents the student's recorded

A) inference B) observation
C) conclusion D) hypothesis

47. Compared to gases, liquids are not easily compressed because particles of a liquid

A) have more kinetic energy
B) are closer together
C) have a crystalline structure
D) are moving faster

48. Rock *X* and rock *Y* are igneous rocks with identical mineral composition. Rock *X* has no visible crystals and rock *Y* has large, visible crystals. What can be inferred about rock *Y*?

A) Y cooled at the Earth's surface, more quickly than rock *X.*
B) Y cooled at the Earth's surface, more slowly than rock *X.*
C) Y cooled beneath the Earth's surface, more slowly than rock *X.*
D) Y cooled beneath the Earth's surface, more quickly than rock *X.*

49. Which factor has the most influence on the development of soil?

A) longitude
B) slope of the landscape
C) amount of rounded sediment
D) climate

50. The relative hardness of a mineral can best be tested by

A) scratching the mineral across a glass plate
B) determining the density of the mineral
C) breaking the mineral with a hammer
D) squeezing the mineral with calibrated pliers

51. Sedimentary rocks of organic origin would most likely be formed from

A) particles removed from the atmosphere by precipitation
B) materials deposited by glaciers
C) shells of marine animals
D) sediments eroded by running water

52. Fossils of a dinosaurs would most likely be found in

A) igneous rock B) metamorphic rock
C) conglomerate rock D) sedimentary rock

53. Which process represents a chemical change?

A) evaporation of water
B) burning of paper
C) crystallization of sugar
D) melting of ice

54. In which climate does physical weathering by frost action most easily occur?

A) dry and hot B) moist and hot
C) dry and cold D) moist and cold

55. Which statement is true about the charges assigned to an electron and a proton?

A) An electron is negative and a proton is positive.
B) Both an electron and a proton are positive.
C) An electron is positive and a proton is negative.
D) Both an electron and a proton are negative.

56. What do most igneous, sedimentary, and metamorphic rocks have in common?

A) They are produced by heat and pressure.
B) They are formed from molten material.
C) They exhibit crystals, banding, and distinct layers.
D) They are composed of minerals.

57. What are the horizontal rows on the periodic table are called?

A) periods B) groups
C) families D) sections

58. What determines the order of placement of the elements on the modern Periodic Table?

A) the number of neutrons and protons
B) atomic mass
C) the number of neutrons, only
D) atomic number

59. The point on the Earth's surface that lies directly above the site where an earthquake took place is called the

A) fault line. B) epicenter.
C) focus. D) tsunami.

60. The number of neutrons in the nucleus of an atom can be determined by

A) adding the atomic number to the mass number
B) adding the mass number to the atomic mass
C) subtracting the atomic number from the mass number
D) subtracting the mass number from the atomic number

61. Recent volcanic activity in different parts of the world supports the inference that volcanoes are located mainly in

A) zones in late stages of erosion
B) zones of crustal activity
C) the central regions of the continents
D) the centers of landscape regions

62. The majority of the elements listed in the Periodic Table are classified as

A) nonmetals B) metalloids
C) noble gases D) metals

63. What do mid-ocean ridges and hot spots beneath ocean plates have in common?

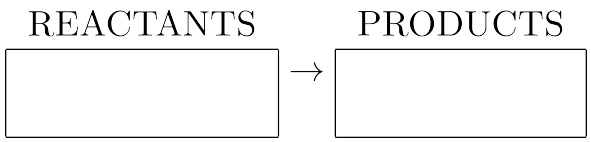
A) They are located along crustal plate boundaries
B) Neither is associated with plate motions
C) Rising magma moves due to density differences
D) Local earthquakes originate at great depths

64. In which phase of matter are the molecules of a substance farthest apart from each other?

A) liquid B) solid C) gas D) crystal

65. Which is an example of a chemical change?

A) cutting paper B) a nail rusting
C) chopping wood D) water boiling

66. 

The diagram shows a chemical equation with the substances on either side of the equation hidden from view. From the law of conservation of mass, we know that

A) the products will have more mass
B) the reactants and the products will have the same mass
C) the reactants will have more mass

67. In hot, wet climates, bedrock rapidly weathers into soil because water

A) expands when it freezes
B) cools the surroundings when it evaporates
C) is part of most chemical compounds
D) dissolves many minerals

68. In order to make observations, an observer must always use

A) experiments
B) the senses
C) proportions
D) mathematical calculations

69. Which statement is true about a proton and an electron?

A) They have the same masses and different charges.
B) They have different masses and the same charges.
C) They have the same masses and the same charges.
D) They have different masses and different charges.

70. The grouping of rocks as igneous, sedimentary, and metamorphic is based primarily upon differences in

A) size B) origin
C) hardness D) age

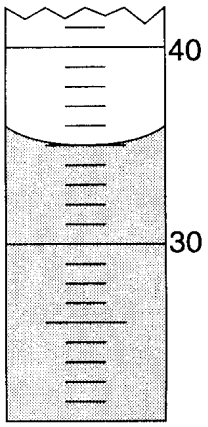
71. What is the part of an experiment that does not change, and serves as a basis for comparison?

A) control B) variable
C) hypothesis D) scientific method

72. Elements that conduct heat and electricity are:

A) nonmetals B) metals
C) noble gases D) metalloids

73. The diagram below represents a portion of a 100-milliliter graduated cylinder.



What is the volume measurement?

A) 36.0 mL B) 35.0 mL
C) 45.0 mL D) 44.0 mL

74. Which statement best describes the molecules of water in the solid phase?

A) They move slowly in straight lines.
B) They move rapidly in straight lines.
C) They are arranged in a regular pattern.
D) They are arranged in a random pattern.

75. Which activity demonstrates chemical weathering?

A) grinding of talc into a powder
B) scraping of a streambed by tumbling rocks
C) dissolving of limestone by acid rain
D) freezing of water in the cracks of a sandstone sidewalk